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BIRDS ON THE NAVAJO RESERVATION IN NEW MEXICO

By M. FRENCH GILMAN

IT was my fortune to be stationed at Shiprock Agency on the San Juan river in Northwest New Mexico for seven months; and herewith are presented what bird notes I made in that period. The time, from February 1 to September 1, 1907, was favorable; but stress of duty prevented my doing as much field work as I desired.

The Indian School was situated in a cottonwood grove not far from the river at about 5500 feet altitude. Along the river both above and below the school were other groves of the common cottonwood, with a few of the narrow-leaved cottonwood, some willows (two species) and an occasional shrub of *Rhus trilobata* and *Adelia neo-mexicana*. Outside the groves scattered along the river were patches of brush such as *Sarcobatus*, *Artemisia*, chico-brush, rabbit-brush and *Senecio*.

The river bottom was bounded by bluffs from 50 to 75 feet high: in places the water flowing against the rocky wall and again a strip half a mile wide intervening. Back from the bluffs were mesas, barren except for a sparse growth of bunch grass with a few scattered specimens of stunted *Artemisia* and *Senecio*. During summer there are patches of color in suitable places on these mesas; the white of the "snow-ball", *Abronia*, purple of *Phacelia glandulosa*, yellow of *Senecio douglasi*, and crimson of a *Malvastrum*. Much of the country was level and for miles in any direction not enough growth to hide a rabbit could be seen.

In uncultivated fields along the river sprang up a dense growth of sunflowers, purple bee-plant, *Peritoma serrulatum*, and yellow bee-plant, *Peritoma luteum*, many of them higher than a man's head. The pestiferous Russian thistle formed an undergrowth among the taller plants, while the lowly *Abronia fragrans* furnished a pleasant contrast to the mal-odorous bee-plant.

About ten miles south of the river, from a level plain, rose a rock, schooner-shaped (nautical, not Milwaukee schooner) to the height of 1600 feet. This was called Shiprock and gave the name to the Agency and postoffice. Thirty-five miles south of the river were the Chusca Mountains with an altitude of between nine and ten thousand feet. The foothills at their base were covered with heavy growths of pinyon and juniper with some *Yucca baccata*, *Cercocarpus* and *Purshia tridentata*. As the altitude increased this growth gave way to the Rocky Mountain pine and a few scrubby oaks. Along the north slopes of the summit of the range were dense groves of quaking aspens and near water in the higher altitudes were some paper-leaf alder and service berry.

Only one permanent stream of water was found and that not as large as a small irrigating head. A number of springs were seen in the deeper canyons, and stream-lets from these flowed a few rods and sank.

During spring, ducks and other water and shore birds were seen in small numbers along the river but as they were traveling and hard to obtain I gave them scant attention. Most of the commoner species of ducks and a few gray geese were seen. One Egret, and several each of Killdeer, Western Willet, Greater Yellow-legs, Snowy Heron, Great Blue Heron, Black-crowned Night Heron, and Bittern were seen. I was disappointed at seeing so few birds in the country. Of some species only one was noted and of others only two or three. Only five days were spent in the Chusca Mountains, so little work was done there. The following list of land birds is probably far from complete but will give some idea of the bird life of that region. Unless otherwise specified all records refer to Shiprock, along the San Juan river. All

mention of mountains means the Chusca range, while river, of course, is the San Juan, a muddy, turbulent, treacherous stream.

Acknowledgments are due Mr. Joseph Grinnell for identification of doubtful species and subspecies.

Lophortyx gambeli. Gambel Partridge. A friend living at Aztec several miles from Shiprock, up the river, told me one of these birds spent part of one winter around his haystack.

Meleagris gallopavo merriami. Merriam Turkey. Turkeys, probably this variety, are said to be rather common in the oak, pinyon and juniper zone at the west end of the Chusca Mountains. Indians frequently bring them for sale to the post traders' stores near the mountains, but they usually remove wing and tail feathers at least, before delivering.

Zenaidura macroura. Mourning dove. A few stay all winter along the river. In summer they become very numerous, frequenting the sunflower and bee-plant thickets, probably eating the seeds. They nest freely in cottonwood groves along the river and also in the shrub patches.

Cathartes aura. Turkey Vulture. Common in early spring and in late summer and autumn.

Accipiter cooperii. Cooper Hawk. Seen occasionally in groves along the river where they seem to prey upon the doves.

Buteo borealis calurus. Western Red-tail. Seen along the river bluffs where they nest, and also back in the mountains. Fairly common.

Buteo swainsoni. Swainson Hawk. Noticed among the groves but not numerous.

Archibuteo ferrugineus. Ferruginous Rough-leg. Three seen: one along the river and two at "One-Eye-Water" spring, about fifteen miles south of the river.

Aquila chrysaetos. Golden Eagle. Seen occasionally. A pair nested on a bluff a few miles up the river from Shiprock.

Falco mexicanus. Prairie Falcon. A few noted but they seem rare.

Falco columbarius. Pigeon Hawk. Two seen among the cottonwoods, one of which was secured.

Falco sparverius. Sparrow Hawk. Common along the river bluffs and the rocky buttes on the desert plains.

Asio wilsonianus. Long-eared Owl. Two seen several times in a thicket of willows and "squaw-bush," *Rhus aromatica*.

Bubo virginianus pallescens. Western Horned Owl. Heard several times in the mountains but not seen.

Speotyto cunicularia hypogæa. Ground Owl. Seen on the mesas back from the river. Noticed an entire family, eight or nine, in the shade of a bush several feet from the hole one hot day.

Dryobates villosus monticola. Rocky Mountain Hairy Woodpecker. Resident in groves along the river and also in the mountains. A pair nested in a cottonwood not far from the school and the male in particular displayed much anxiety whenever the nest tree was approached. Several times he followed me from tree to tree for a number of rods, calling down maledictions on my head.

Dryobates pubescens homorus. Batchelder Woodpecker. Nesting in groves near the river. Not numerous.

Sphyrapicus thyroideus. Williamson Sapsucker. Two young males seen in the pinyon belt on the Chusca Mountains.

Colaptes cafer collaris. Red-shafted Flicker. Found in winter and early spring

along the river. Later and more numerous, in the mountains. A yellow-shafted one was seen but not secured, so its identity remains doubtful.

Chordeiles virginianus henryi. Western Nighthawk. A few seen during spring and summer.

Trochilus alexandri. Black-chinned Hummingbird. Fairly common near the river, tho more numerous among the pinyons and junipers of higher altitudes.

Selasphorus platycercus. Broad-tailed Hummingbird. Not common. Only a few seen.

Tyrannus verticalis. Western Kingbird. Common, nesting in all the groves.

Tyrannus vociferans. Cassin Kingbird. A few seen in early spring, apparently not nesting.

Myiarchus cinerascens. Ash-throated Flycatcher. Abundant everywhere and nesting in deserted woodpecker holes.

Sayornis saya. Say Phoebe. Not numerous, but a few seen thruout the country from the river to the mountains.

Contopus borealis. Olive-sided Flycatcher. Quite numerous during spring migration. The first was seen May 19, and the latest date was June 16, when three were noticed.

Empidonax wrightii. Wright Flycatcher. Noted frequently during April and May.

Otocoris alpestris leucolæma. Pallid Horned Lark. Common everywhere. A certain place in the river, where the water spread out and formed several small streams, was a favorite watering place, and flock after flock came to drink every day. All springs on the mesas and plains were frequented by these larks in great numbers.

Pica pica hudsonica. Black-billed Magpie. Common all along the river and nesting everywhere, even in trees in the school yard. I was much interested in a one-legged old "maggie," we called her Peggy, who was building in a tree just in front of my window. I was told that she had nested near the buildings the three years preceding. The old nests were much in demand for roof-trees by the English sparrows, and to a less degree by house finches. But I thought the limit was reached when we found in one, a nest of four young of *Felis domestica* (pussy-cat). They were discovered by seeing the kittens peering from the nest which was sixteen feet from the ground.

Cyanocitta stelleri diademata. Long-crested Jay. Several seen among the pines and spruces in the mountains in July.

Aphelocoma woodhousii. Woodhouse Jay. One seen on the La Plata river in February. Two seen in the pinyons on the Chusca mountains in July, and two at Shiprock in August. They seem erratic in their range.

Corvus corax sinuatus. American Raven. Fairly common; nesting on bluffs along both sides of the river.

Nucifraga columbiana. Clarke Nutcracker. Two seen in the Chuscas in October, 1906, and a young male secured near the same spot in July, 1907.

Cyanocephalus cyanocephalus. Pinyon Jay. Two small flocks seen at Shiprock. I found the birds quite common in the pinyons and junipers on the hill.

Molothrus ater. Cowbird. Common. An egg found in a western gnatcatcher's nest along with two of the rightful owner's eggs.

Xanthocephalus xanthocephalus. Yellow-headed Blackbird. Seen occasionally near the barn yards.

Agelaius phoeniceus. Red-winged Blackbird. Seen frequently on flooded land.

***Sturnella neglecta*.** Western Meadowlark. Common in all cultivated neighborhoods.

***Icterus bullocki*.** Bullock Oriole. A few pairs nesting in the cottonwood trees.

***Scolecophagus cyanocephalus*.** Brewer Blackbird. Common. Contesting the supremacy of the barnyard with English sparrows.

***Carpodacus mexicanus frontalis*.** House Finch. Numerous in brush areas, and disputing with English sparrows for the choicest nesting places near the house. They seemed to hold their own in a scrap till the ratio became four or five sparrows to one finch, and a retreat was sounded. The finches nested closer to the house than did the sparrows, and nests were also found out in the artemisia and the groves. A favorite nesting place was the globe of a gas jet. I noticed five of the globes on the porches thus occupied. Several times I found sticks and strings on the floor of my room, and watching quietly one day, saw a pair of the finches enter the open window and try to start a nest in the globe of my gas jet. But the inside globes were different from those on the porches and the material always fell out.

***Astragalinus tristis pallidus*.** Pale Goldfinch. Seen a few times. Not at all common.

***Astragalinus psaltria*.** Arkansas Goldfinch. Seen oftener than *pallidus* but not numerous. Present during breeding season.

***Spinus pinus*.** Pine Siskin. Several seen along the river in April and six in the mountains in July.

***Passer domesticus*.** English Sparrow. Very numerous at Shiprock. Nested in old magpies' nests, deserted woodpecker holes, cornices of buildings, and in fact any old place so it was not far from a house or a barn. Did not stray far from cultivation. Were fond of young lettuce and did damage to it that was charged to the account of neighbor's hens.

***Poecetes gramineus confinis*.** Western Vesper Sparrow. Common about the fields.

***Chondestes grammacus strigatus*.** Western Lark Sparrow. One of the most numerous birds to be seen; arriving about May 1st.

***Zonotrichia leucophrys*.** White-crowned Sparrow. Fairly common during winter and early spring.

***Zonotrichia leucophrys gambeli*.** Gambel Sparrow. Not so numerous as the white-crowned.

***Spizella monticola ochracea*.** Western Tree Sparrow. Common in the brush areas in winter and early spring.

***Spizella socialis arizonæ*.** Western Chipping Sparrow. Common resident.

***Spizella breweri*.** Brewer Sparrow. Noticed frequently among low weeds during springtime.

***Junco hyemalis*.** Slate-colored Junco. Two seen in March.

***Junco hyemalis connectens*.** Intermediate Junco. Common in winter and early spring.

***Junco mearnsi*.** Pink-sided Junco. Not so common as the preceding.

***Junco caniceps*.** Gray-headed Junco. Seen along the river in early spring and in the mountains in July, where they may nest, as young birds were noticed.

***Amphispiza bilineata deserticola*.** Desert Sparrow. Seen along the river and also out on the desert wherever enough vegetation could be found.

***Amphispiza nevadensis*.** Sage Sparrow. Rare. Seen only twice, out on the desert near a sulphur spring.

***Melospiza melodia montana*.** Mountain Song Sparrow. Common along the river.

Melospiza lincolni. Lincoln Sparrow. A few seen in February and March. Caught one in the carpenter shop one windy morning.

Pipilo maculatus megalonyx. Spurred Towhee. Young and adults seen in the pinyon and juniper zone in the Chusca mountains. Seemed to be not common.

Oreospiza chlorura. Green-tailed Towhee. Common at Shiprock during spring migration. Seen among the pinyons and pines on the mountains.

Zamelodia melanocephala. Black-headed Grosbeak. Common. Breeding at Shiprock in the cottonwoods, and also in the pine belt in the mountains.

Guiraca caerulea lazula. Western Blue Grosbeak. Three seen August 16, feeding on ripening sunflower seed.

Cyanospiza amœna. Lazuli Bunting. One seen along the river in August.

Calamospiza melanocorys. Lark Bunting. Seen once, when a flock of about thirty was encountered on a showery afternoon, June 2nd.

Piranga ludoviciana. Western Tanager. A few at Shiprock in May, and also in the mountains in July.

Petrochelidon lunifrons. Cliff Swallow. Common. A big colony nested on a bluff overhanging the river. Fifty nests were counted. It was a nesting site secure from marauders, but sure destruction for the precocious nestling who fell out of the nest. A few of the swallows were seen also at a Navajo "hogan" or house, near the foothills.

Hirundo erythrogastra. Barn Swallow. A few seen in June.

Tachycineta thalassina lepida. Violet-green Swallow. Very numerous near the river before nesting time. Seen in the mountains in July, from the pinyon belt up to and extending into the pines.

Stelgidopteryx serripennis. Rough-winged Swallow. A few seen along the river and also in the edge of the pinyons.

Ampelis cedrorum. Cedar Waxwing. One seen in a cottonwood tree near the schoolhouse May 27th.

Lanius ludovicianus excubitorides. White-rumped Shrike. Seen occasionally in *Sarcobatus* thickets along the river. A juvenile caught under a "deadfall" set for rats and squirrels near the edge of the junipers. He was probably after the bacon rind bait.

Vireo solitarius plumbeus. Plumbeous Vireo. Seen several times at the river and also found later in the mountains.

Vireo gilvus swainsoni. Western Warbling Vireo. Seen occasionally, but more often heard singing in the tree tops along the river.

Helminthophila luciae. Lucy Warbler. One secured in a grove along the river May 19.

Dendroica æstiva. Yellow Warbler. Very numerous; nesting in every cottonwood grove and also in trees near the buildings. Their song was heard more often than any other.

Dendroica auduboni. Audubon Warbler. Numerous during May. Seen in the mountains in July.

Dendroica nigrescens. Black-throated Gray Warbler. Fairly common in the mountains among pines and oaks. Noticed old birds feeding grown young, several times during July. Two juveniles noted along river in August.

Seiurus noveboracensis notabilis. Grinnell Water Thrush. One secured among small cottonwoods on overflow land.

Geothlypis tolmiei. Tolmie Warbler. Numerous in May along the river. Seen in July in mountain meadows near summits of Chusca range.

Geothlypis trichas occidentalis. Western Yellow-throat. Common all thru May. Not seen afterwards.

Icteria virens longicauda. Long-tailed Chat. Several pairs spent the season in thickets along the river and their song was a prominent feature among all sounds.

Wilsonia pusilla pileolata. Pileolated Warbler. Seen frequently thru month of May.

Setophaga ruticilla. American Redstart. A pair seen during a shower, May 27.

Anthus pensilvanicus. Pipit. Seen in fields during spring migration.

Oroscoptes montanus. Sage Thrasher. Three seen in a patch of *Sarcobatus* around a sulphur spring out on the plains. An old nest seen.

Mimus polyglottos leucopterus. Western Mocking-bird. Numerous in fields and groves near the river. Nests seen in *Sarcobatus* and other shrubs. Their singing sounded like that heard in California but seemed less frequent.

Galeoscoptes carolinensis. Catbird. One came to the school grounds May 7 and stayed around a week or more. Another seen the same week in a willow thicket near the river.

Salpinctes obsoletus. Rock Wren. Found everywhere; a welcome sight in a desert land.

Thryomanes bewickii leucogaster. Baird Wren. Noted during February and March. In July seen in the mountains.

Troglodytes aedon parkmani. Parkman Wren. Several found among the pines.

Certhia familiaris montana. Rocky Mountain Creeper. Found among spruce trees near the top of the Chusca mountains. A family of grown young ones noticed in July.

Sitta carolinensis aculeata. Slender-billed Nuthatch. Numerous in the mountains in July. One noticed in the school grounds July 29.

Sitta canadensis. Red-breasted Nuthatch. One seen in a cottonwood tree near the river May 11.

Sitta pygmaea. Pigmy Nuthatch. Numerous from edge of pinyons to the upper limit of the pines.

Parus inornatus griseus. Gray Titmouse. Very numerous all thru the pinyon and juniper zone, and extending a little way into the pines. Families of grown young noticed several times, and these were extremely tame.

Parus gambeli. Mountain Chickadee. Common in the mountains. A few seen along the river in early spring.

Psaltiriparus plumbeus. Lead-colored Bushtit. Two seen along the river in February. Numerous among the pinyons and junipers, large family flocks being frequently encountered. Very tame.

Regulus calendula. Ruby crowned Kinglet. Common in spring migration.

Polioptila caerulea obscura. Western Gnatcatcher. Several pairs noticed. A nest found in a narrow-leaved cottonwood June 16, containing two gnatcatcher's and one cowbird's egg. July 28 a nest containing young nearly grown.

Myadestes townsendi. Townsend Solitaire. Several pairs noticed high in the mountains in July.

Hylocichla guttata auduboni. Audubon Hermit Thrush. High in the mountains in July; apparently breeding, as several pairs were seen. One pair displayed much uneasiness when a spruce thicket was approached, tho no nest could be discovered. Probably a nestling concealed somewhere.

Hylocichla guttata nana. Dwarf Hermit Thrush. One secured May 12 at Shiprock.

Merula migratoria propinqua. Western Robin. One seen March 10. Several

juveniles seen in the mountains in July, and four of the same noticed along the river July 28.

***Sialia mexicana bairdi*.** Chestnut-backed Bluebird. A few seen in March along the river. Several noticed in the mountains. The location seemed favorable but their scarcity was quite noticeable.

***Sialia arctica*.** Mountain Bluebird. Six seen one day in July among the pinyons. Possibly a family. Their absence from the higher part of the mountains seemed strange.

Sacaton, Arizona.

AN ANNOTATED LIST OF THE BIRDS OF MESA COUNTY, COLORADO

By ROBERT B. ROCKWELL

WITH TWO MAPS AND NINE PHOTOS BY THE AUTHOR

IN undertaking the compilation of an annotated list of the birds of Mesa County, Colorado, it has been the purpose of the writer to collect such information as might be available relating to this subject, with a view to preserving these pioneer observations and thus furnishing a skeleton around which future observers may build a complete Ornithological structure.

In placing this list before the reader, the writer wishes to emphasize the fact that it is purely preliminary; the amount of work he has done in the County, tho comparatively small, forces upon him a full realization of the remarkably small amount of information existing, regarding the bird life of the County, and also of its great possibilities along Ornithological lines on account of its geographical position and varying topography.

The information contained herein has been secured by an extensive correspondence covering a period of about fifteen months during which time every probable source of information on the subject which has come to the writer's knowledge has been investigated and the information thus secured embodied in this list. Added to this information are the observations of the writer covering two entire years and portions of the six intervening years between 1897 and 1905, about one-half of which time was spent within the confines of the County and during which time 109 species were encountered and a close study made of the commoner varieties.

In response to requests for information the writer has received generous and efficient assistance from the following persons and he wishes to take this opportunity to express to them his gratitude and appreciation of the valuable notes so willingly furnished.

To Prof. W. W. Cooke, U. S. Biological Survey, Washington, D. C., to whom the writer is indebted for a working model (Cooke's *Birds of Colorado* being followed as closely as possible both as to contents and to form), the entire list as completed was sent for correction and criticism. Prof. Cooke, after carefully examining the manuscript of the list, added nine new species and important notes on several already included in the list.

Mr. Richard H. Sullivan, Local Forecaster, U. S. Weather Bureau, Wichita, Kansas, formerly of Grand Junction, Colorado: An annotated list of 93 species, observed in that vicinity during about three year's residence, and containing among much other valuable information a very complete record of dates of arrival and de-